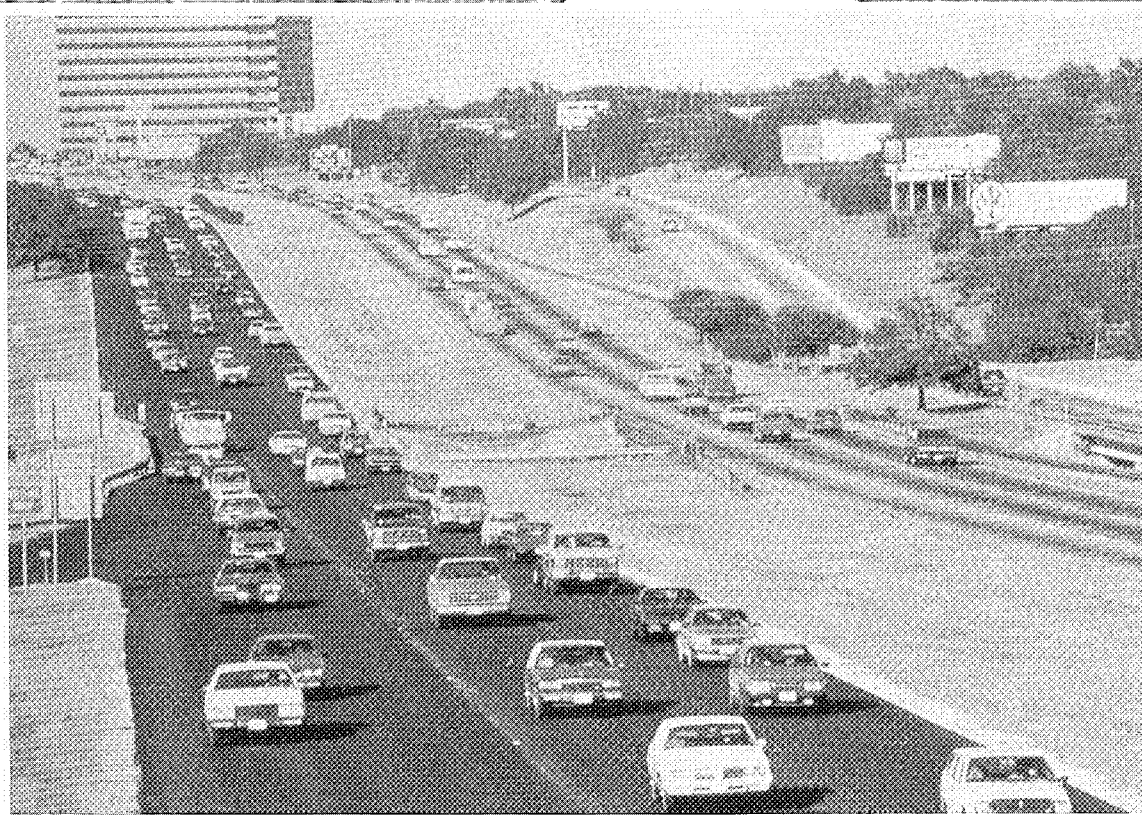


# Using 1990 Census Data To Support **TRANSPORTATION PLANNING AND POLICY DEVELOPMENT**

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## *An Overview Of The CTPP*



*An information brochure designed to provide an overview of the data resources contained in the 1990 Census Transportation Planning Package (CTPP) and their application to the comprehensive land use, transportation, air quality planning process.*



U.S. Department  
of Transportation  
Federal Highway  
Administration





# **CENSUS TRANSPORTATION PLANNING PACKAGE (CTPP)**

## ***A MANAGEMENT OVERVIEW***

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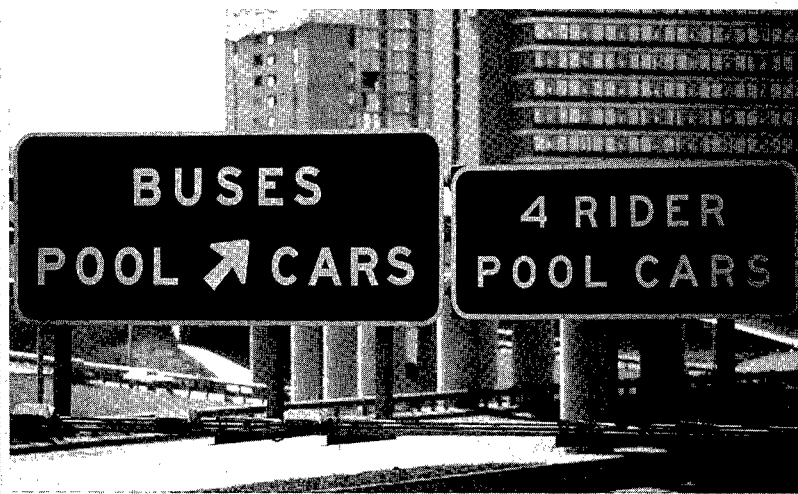


# USING THE 1990 CENSUS TRANSPORTATION PLANNING PACKAGE (CTPP)

## *Why Should You Use the CTPP?*

The planning process at all levels of government is being required to provide information and technical support on a wide variety of subjects, such as:

- Alternative transportation policies affecting auto emissions and air quality;
- The effectiveness of existing transportation programs serving the mobility needs of the population; or
- The justification for necessary improvements.



Unfortunately, budgetary constraints limit the amount of money and time available for data collection.

Standardized in its format nationwide, the CTPP provides an extremely comprehensive, reliable, and cost-effective database. Its tables summarize population and household characteristics by place of residence, worker characteristics by place of work, and detailed commuter (journey-to-work) information. Its potential applications are numerous. For example, suppose your local planning agency is attempting to characterize local commuter flows to address congestion in a corridor leading into town. The CTPP can be used to identify the origins of commuters traveling in the corridor, their means of travel, and their time of travel. With this type of detailed information, alternative improvements, including potential travel demand management (TDM) strategies, can be developed with assurances about the accuracy of the demand data. This data may preempt the need to conduct an expensive and time-consuming origin-destination survey for the preliminary definition of alternatives.

## ***How Can the CTPP be Useful to You?***

The CTPP can be useful in several ways. First, as illustrated by the previous example, the CTPP can be used directly for **planning analysis**. Second, the CTPP can be used in conjunction with 1980 Census tables (or other pre-1990 data sources) to **determine trends** or impacts of strategies implemented over the last decade. For example, the effectiveness of a van-pooling program initiated in the mid-1980s can be determined by comparing the percentage of carpoolers and van-poolers reported in the 1990 CTPP with comparable statistics for 1980. Third, the CTPP can be used to **develop or update the computer models used to forecast travel demand**. Many localities will use CTPP population, housing, and worker characteristics as base year socioeconomic inputs needed to validate the model chain. CTPP tables will also be used to test the accuracy of individual models in the modeling chain, such as:



- Home-based work trip generation rates;
- Commuter trip length frequencies;
- Auto occupancies for the trip to work; and
- Mode split sensitivities for commuter travel.

There are also nontransportation uses of the CTPP, such as defining the market area for a proposed retail development or determining accessibility of various population groups to proposed public facilities, such as hospitals or schools.



## ***What is the CTPP?***

The Census Transportation Planning Package (CTPP) is an extensive collection of summary tables developed from 1990 Census data. Tables are provided for a number of geographic levels, from statewide summaries to summaries for individual Traffic Analysis Zones (TAZs) and Census Tracts.

The CTPP is designed primarily for transportation planning analysis and provides detailed population, housing, worker, and commuter characteristics frequently needed by planners, policy analysts, and engineers. The tables are helpful in accurately sizing-up existing conditions; developing or updating travel demand models; or, in conjunction with similar Urban Transportation Planning Package (UTPP) data from 1980, assessing past program performance or identifying changes in travel characteristics during the past 10 to 20 years.

CTPP tables provide decision makers with credible data allowing them to address issues such as:

- Assessing the feasibility and possible impacts of congestion management strategies and low-cost systems/demand management initiatives, such as carpool/van-pool, flex-time, and parking management programs; or
- Determining the potential commuter market for new/expanded highway/transit facilities.

To support its integral role in state, regional, and local planning, the CTPP has been designed to be extremely user-friendly. Tables can be quickly and easily downloaded into commonly used commercial software in a microcomputer environment to be further summarized or manipulated by users. The types of information produced from the tables can be reformatted and used in a wide variety of transportation and nontransportation applications.

The CTPP is provided in two elements: a Statewide Element and an Urban Element. The Statewide Element provides informational summaries on commuters and commuting patterns for each state and for all counties and incorporated places with more than 2,500 inhabitants or more. The Urban Element provides these same statistics, in much greater detail, for metropolitan areas.

This brochure presents an overview of how you can benefit from this specially prepared set of tables. Your efforts in applying Census data to solve local transportation problems will be greatly enhanced by the CTPP and its companion software. For example, you will be able to use the tables to:

- Update local socioeconomic databases;
- Provide a check of local travel demand model inputs and outputs; and
- Determine socioeconomic and travel demand trends.

The following chapter provides detailed examples of potential applications of the CTPP. The Appendix provides additional details on the contents and format of the CTPP.

# CTPP APPLICATIONS

The examples on the following pages illustrate the versatility of the CTPP. They include:

1. Using the CTPP directly for short-range transportation planning analysis;
2. Using the CTPP to provide inputs for air quality planning;
3. Using the CTPP to develop, update, and validate travel demand models, and
4. Using the CTPP for nontransportation planning activities.



# TRANSIT PLANNING

## ***Problem:***

The local transit agency is exploring ways to increase transit ridership in the city.

## ***Solution:***

Determine which corridors could support a major transit improvement by identifying areas with a high percentage of captive transit riders and a high probability of attracting choice riders.

## ***Inputs:***

- CTPP population/household characteristics tables that can identify areas (places, Census Tracts, or TAZs) with high percentages of households with no cars available, low incomes, or with members having difficulty “getting around outside the home.”
- CTPP journey-to-work tables that identify corridors with high percentage of commuter travel with common trip origin and destinations using TAZ summaries. These areas can be further identified as having relatively low highway speeds.



## ***Product:***

- Identification of corridors with a high potential for transit use.

# AIR QUALITY PLANNING

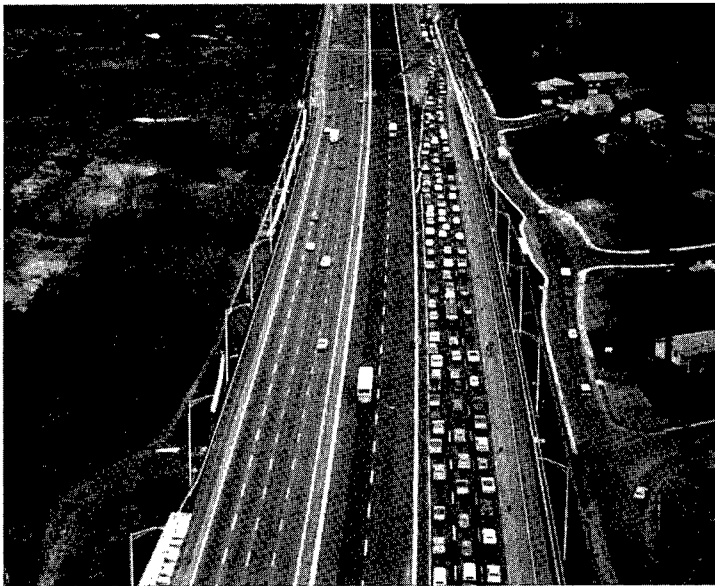
## ***Problem:***

The region is close to being a marginal non-attainment area for air quality. Officials would like to know whether past trends in auto travel suggest that a change to non-attainment status is in the near or distant future.

## ***Solution:***

Commuter flow tables from the 1980 Census and the 1990 CTPP are used to estimate the growth in commuter traffic (a critical travel component for air quality) over the past 10 years and to extrapolate that growth over the next 10 years. Assumptions about auto emissions for each vehicle mile traveled are used to determine overall auto emis-

sions. The total amount of emissions will indicate the region's status for air quality.



In addition, using CTPP tables to analyze commuter flows will allow the region to target specific corridors, and the level of single-occupant vehicle use within them, for trip reduction and congestion management programs, such as flexible work hours, van-pools and parking management. Such strategies may help prevent the region's air quality status from degrading.

## ***Inputs:***

- 1980 Census (or other data) and 1990 CTPP tables.
- 1980 and 1990 area-to-area highway times and distances.
- Auto emission rates.

## ***Products:***

- Generalized estimate of morning peak hour VMT.
- Generalized estimate of morning peak hour auto emissions.

# FISCAL ANALYSIS AND CONGESTION PRICING

## ***Problem:***

Need to expand multi-modal access to the central city to handle heavy inflow of non-resident commuters who use the transportation facilities but do not pay city property taxes to help fund the improvements.

## ***Solution:***

Determine the potential impacts of residents who work in the central city.

## ***Inputs:***

- CTPP journey-to-work tables identifying trips from outside the city into the city.
- CTPP tables reporting earnings by place of work.

## ***Product:***

- Estimated revenue from commuter tax on non-city residents.



# DETERMINING TDM EFFECTIVENESS

## ***Problem:***

Determine whether van-pooling and other transportation demand management programs have been effective since initiation in the mid-1980s.

## ***Solution:***

Use Census tables to determine whether more commuters are using van-pools in selected corridors since the program was initiated.



## ***Inputs:***

- 1980 data on mode of travel for areas where van-pooling program was initiated (e.g., 1980 Census or other survey).
- 1990 CTPP means-of-travel tables for same areas.

## ***Product:***

- Changes in percentages of journey-to-work trips made by high occupancy vehicles and van-pools.

# CHECKING THE ACCURACY OF TRAVEL MODELS

## ***Problem:***

Update travel demand model inputs without conducting a major household travel survey.

## ***Solution:***

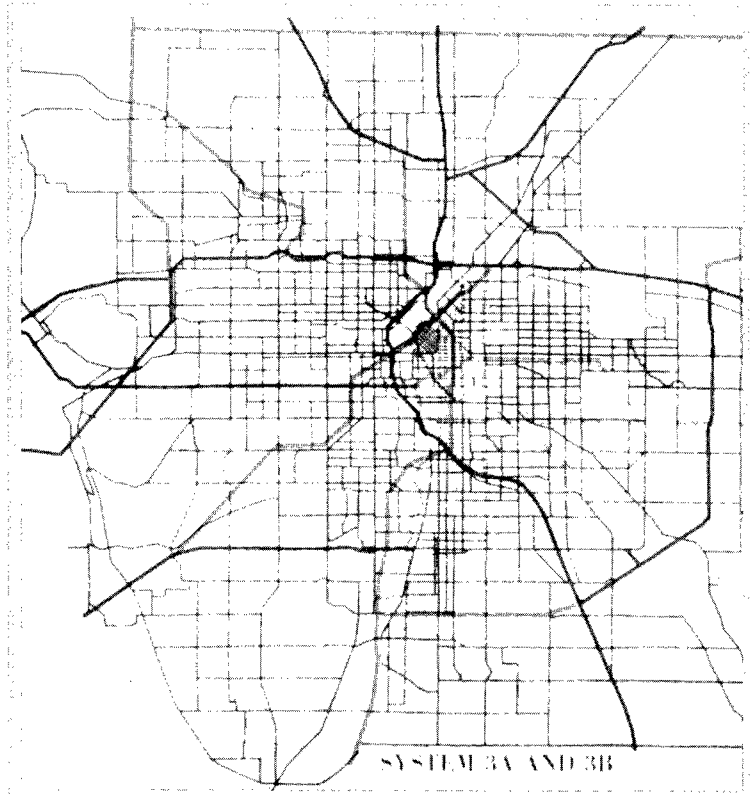
Identify travel behavior patterns from CTPP and compare with earlier calibrations.

## ***Inputs:***

- CTPP journey-to-work tables.
- 1990 travel model output.

## ***Products:***

- Trip length frequency distribution for work trips – CTPP/model comparison.
- Comparison of CTPP and model-simulated area-to-area work trip tables for 1990.
- Work trip generation rates by household type.
- Comparison of CTPP transit trips with 1990 model-simulated transit ridership.



# **CTPP Availability and How to Get More Help**

## ***How Can I Get the CTPP for My State and Region?***

The Census Bureau is distributing the CTPP tables to the Departments of Transportation (DOTs) in each state. Contact the planning office in your state's DOT to find out how to obtain the CTPP tables for the state or your urban areas. If you are not certain about who to contact at the state level, call Ernest Wilson at the CTPP Hotline at (301) 763-2601.

The CTPP is being provided to local agencies at no charge. Private organizations should contact local MPOs or State DOTs in their locales to find out about the availability and cost, if any, of the CTPP.



## ***How Do I Find Out More About the CTPP?***

To find out more about the CTPP, its availability, contents, and potential applications, or if you have a package and need help accessing the data tables, call the CTPP Hotline (301) 763-2601.

## ***How Do I Find Out More About the CTPP in Planning Analysis?***

To learn more about the many uses of the CTPP, both transportation and nontransportation-related, please call FHWA's Planning Support Branch at (202) 366-0182. Informational materials and technical assistance related to the CTPP are available upon request.



## Technical Assistance

You may also be interested in attending one of the CTPP two-day technical assistance seminars held throughout the country. This is designed for Metropolitan Planning Organizations that are using the Census Transportation Planning Package (CTPP).

This seminar is divided into four sections:

- How the CTPP originated;
- Understanding the Census Long Form Questionnaire;
- TransVU Software Training; and
- Urban CTPP Applications.

This a significant component of the outreach and education effort that has been set in place by FHWA and FTA over the last three years. Since the development of the three-day NHI Census Transportation Planning Package Applications Course, there has been a PC-

based extraction software, TransVU, created by the Bureau of Transportation Statistics (BTS) to assist the users in downloading this large data set. This seminar offers a platform for teaching the participants how to use this tool and to open discussion regarding the local applications of the data.

In addition, a 20-minute video is available from FHWA that provides an overview of the CTPP and is intended for anyone who is interested in the package or its potential applications. For more information about the above mentioned technical assistance or video availability, call the FHWA Planning Support Branch (202/366-0182).





# APPENDIX

## ***Details of the Contents of the 1990 CTPP***

The CTPP consists of Statewide and Urban elements. Those elements summarize data at various geographic levels.

Both elements summarize data by:

- Place of Residence;
- Place of Work; and
- Worker Flows.

The types of information provided in Parts A through E of the Statewide Element are:

### ***Part A -***

General population and household tables (e.g., age, sex, housing type) describing residential area characteristics for cities with 2,500 or more residents, for counties, and for the state.

### ***Part B -***

Workplace summaries of worker profiles and commuting characteristics (e.g., employment type) for cities with 2,500 or more population and for counties.

### ***Part C -***

Worker flow summaries (e.g., travel time and mode) between places of 2,500 or more population and counties.

### ***Part D -***

Place-of-residence summaries for cities or counties with more than 75,000 residents and the state. This information is geared specifically to large urban areas and includes cross-tabulations by race and Hispanic origin, among others, not found in Part A.

### ***Part E -***

Place-of-work tabulations for cities or counties with more than 75,000 residents and for the state. Again, these data are oriented toward large urban areas.



# APPENDIX *(Continued)*

The Urban Element of the CTPP is also summarized by:

- Place of residence;
- Place of work; and
- Worker flows.

Tabulations for Part One through Part 4 and Parts 6 through 8 are as follows:

## ***Part 1 -***

Place-of-residence summaries by Traffic Analysis Zones (TAZ) and Census Tracts (CTs), with subtotals for Urbanized Area, Study Area, MSAs, and CMSA. This part is similar in content to Part A of the Statewide Element.

## ***Part 2 -***

Place-of-work tabulations for TAZs and CTs with subtotals for CBDs, Study Areas, MSAs, SMSAs. This part is similar in content to Part B of the Statewide Element.

## ***Part 3 -***

Worker flow tabulations for TAZs, and CTs with subtotals for CBDs, Study Areas, MSAs, and CMSAs. This part includes the same tabulations available in Part C of the Statewide Element.

## ***Part 4 -***

Distribution-of-household information used for trip generation analysis, by large area Place of Residence. The tables are summarized by Urbanized Area study areas, MSAs, and CMSAs.

## ***Part 5 -***

Not provided.

## ***Part 6 -***

Worker flow tabulation for super-districts of 100,000+ (or non-metropolitan counties).

## ***Part 7 -***

Place-of-work tabulation for CT's only.





